

REMARKS

Claims 1-9, 11-16, 18-24, 26-31 and 33-37 are now pending in the application. Claims 10, 17, 25 and 32 were cancelled without prejudice or disclaimer of the subject matter contained therein by way of the Supplemental Amendment filed May 14, 2002 ("the Supplemental Amendment"). Minor amendments have been made to the specification and claims to simply overcome the objections to the specification and the claims. The Examiner is respectfully requested to reconsider and withdraw the objections and rejections in view of the amendments and remarks contained herein.

AMENDMENTS TO SPECIFICATION

The Examiner objected to the changes in the specification as they contained bracketing and underlining. The specification has been amended above to convey these changes without the bracketing and underlining. In view of the amendment to the specification, Applicant respectfully requests withdrawal of this objection.

CLAIM OBJECTIONS

The Examiner has objected to Claims 1 – 4, 7 – 9, 11 – 16, 18 – 24, 26 – 31 and 33 – 37 under 37 C.F.R. 1.75(a). The objections are based on a lack of antecedent basis for various elements within the claims. Applicant has amended Claims 1, 2, 3, 7, 9, 16, 19, 27, 31, 33, 34 and 35 to overcome the antecedent basis objections according to the Examiner's requirement.

The preamble of Claim 1 has been amended to recite a first variable impedance device having a driven element and a second variable impedance device having a driven element. The original specification provides support for a first variable impedance device having a driven element and a second variable impedance device having a driven element (see col. 5, lines 37 – 51). The last line of Claim 1 has been amended to read “the driven element of said first variable impedance device”, which finds antecedent basis in the amended preamble. The last line of Claim 2 has also been amended to read “the driven element of said second variable impedance device”, which finds antecedent basis in the amended preamble of Claim 1.

The fourth line of Claim 2 has been amended to include “phase and magnitude error signals”, which finds proper antecedent basis in Claim 1 as amended in the Supplemental Amendment. The amended language of Claim 2 provides proper antecedent basis for the terms of Claim 3 including the phase signal and the magnitude signal.

Line 14 of Claim 7 has been amended to read “the error signals”, which finds proper antecedent basis in the terms “first and second error signals” recited earlier in the same claim.

Line 16 of Claim 9 has been amended to read “the controller applying fuzzy logic rules”. The amended language serves as the introduction of the term “fuzzy logic rules” and provides antecedent basis for any subsequent recitations of that term. The term “restrictive” has been deleted from line 18 of Claim 9, which now reads “for which said error signals enjoy membership”. The amended language finds proper antecedent basis in the previously recited terms “first and second error signals”.

Line 18 of Claim 16 has been amended to read “for which said phase and magnitude error signals enjoy membership”. Proper antecedent basis is provided from the recitation of phase and magnitude error signals in lines 11 – 12.

With regard to Claim 19, the term “the” has been deleted immediately prior to “at least one fuzzy output”. The amended language serves as the introduction of the term “at least one fuzzy output” and provides antecedent basis for any subsequent recitations of that term.

With regard to Claim 24, Applicant respectfully notes that proper antecedent basis is provided for the term “the phase and magnitude error signals” in lines 9 and 13 – 14. In particular, lines 6 – 7 provide the proper antecedent basis. However, Claim 24 has been amended to resolve an antecedent basis error with regard to the term “the impedance phase and impedance magnitude errors”.

With regard to Claim 27, the term “the” has been deleted immediately prior to “at least one respective fuzzy output”. The amended language serves as the introduction of the term “at least one respective fuzzy output” and provides antecedent basis for any subsequent recitations of that term.

Line 11 of Claim 31 has been amended to read “for which said sensed signal enjoys membership”. The term “sensed signal” is properly supported by the recitation of “a corresponding sensed signal” in lines 5 – 6 of Claim 31.

The term “rules” has been included in line 2 of Claim 33 to render Claim 33 consistent with the actual antecedent basis of “applying fuzzy logic rules” from Claim 31.

The term "fuzzy" has been included in lines 1 – 2 of Claims 34 and 35 have been similarly amended. to render Claim 33 consistent with the actual antecedent basis of "applying fuzzy logic rules" from Claim 31.

Claim 34 has also been amended to read "the step of weighting at least one respective membership value". The amended language serves as the introduction of the term "at least one respective membership value" and provides antecedent basis for any subsequent recitations of that term.

The Examiner objected to Claims 5 and 6 under 37 C.F.R. 1.75(i) because the claims set forth a plurality of elements and failed to separate each element by line indentation. Applicant has amended Claims 5 and 6 to separate each element by line indentation.

The Examiner objected to Claim 12 under 37 C.F.R. 1.75(c) for failing to refer back to and further limit another claim. In particular, Claim 12 depended from Claim 10, which had been previously cancelled without prejudice or disclaimer of the subject matter contained therein. Applicant has amended Claim 12 for dependency on Claim 11.

In view of the foregoing, the lack of antecedent basis for the terms in each of the identified claims has been remedied. Therefore, reconsideration and withdrawal of the objections are respectfully requested.

REJECTION UNDER 35 U.S.C. § 102

Claims 31 and 33 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Gesche et al. (DE 195 21 387 A1). This rejection is respectfully traversed.

At the outset, Applicant respectfully notes that Claim 31 includes “the corresponding sensed signal having at least one respective membership value in at least one fuzzy set”. The Examiner has asserted that Gesche et al. disclose each of the claimed steps.

Applicant respectfully notes that a claim is anticipated only if each and every element set forth in the claim is found in a prior art reference. Applicant respectfully asserts that Gesche et al. fail to disclose “the corresponding sensed signal having at least one respective membership value in at least one fuzzy set”. The fuzzy-logic discussion of Gesche et al. is limited to a brief description of operators including fuzzy-AND, fuzzy-OR and fuzzy-NOT. The discussion of Gesche et al. is absent any mention of fuzzy sets or membership values of fuzzy sets corresponding to a sensed signal. Therefore, Gesche et al. fail to anticipate each and every element set forth in the claim. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Applicant notes that Claim 33 is dependent on Claim 31, which is distinct over the prior art, as discussed immediately above. Therefore, Claim 33 is also distinct over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 34 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gesche et al. (DE 195 21 387 A1) in view of Travaglia (U.S. Pat. No. 5,805,649). This rejection is respectfully traversed.


Applicant notes that Claims 34 and 35 are dependent on Claim 31, which is distinct over the prior art, as discussed immediately above. Therefore, Claims 34 and 35 are also distinct over the prior art. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: June 3, 2003

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